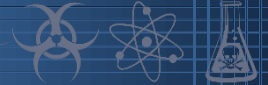


CWMD

COUNTERING WEAPONS OF MASS DESTRUCTION



CReDO

Community Response to Drug Overdose

Duane C. Caneva, MD

Chief Medical Officer
Department of Homeland Security

With honor and integrity, we will safeguard the
American people, our homeland, and our values.

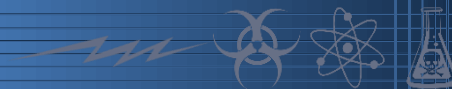
DHS Mission



Homeland
Security

Countering Weapons of Mass Destruction

Disclaimer



I have no financial disclosures.

The opinions represented here are my own and may not represent the opinions of the Department of Homeland Security or the Federal Government.



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Countering Weapons of Mass Destruction

Once Upon a Time...



- A 24 y/o man calls 911 after taking “1 norco tablet”
- *“I feel really high from my normal amount.” and “I feel like I am going to die.”*
- EMS arrives: the patient is not breathing, has low blood pressure & low heart rate, oxygen saturation measurement is too low to read
- 3 mg of naloxone given → minimal response (2 mg IN, 1 mg IM)
- CPR started





- Arrives in the emergency department, CPR is continued, has no pulse despite maximal support
- He is placed on heart-lung bypass
- This was a very sick patient, but...
Severity of toxicity \neq what would be expected from his reported ingestion!
- More comprehensive toxicological testing is ordered



Day 1



- Between 8 am-1 pm
 - 6 additional patients present requiring a naloxone drip
- By 2 pm, the hospital only has enough naloxone to last one more hour
- Emergency agreements for naloxone are activated
 - Surrounding hospitals and pharmaceutical vendor
- At 5 pm, the first patient's comprehensive drug screen result is positive for fentanyl and its metabolites
- More patients keep arriving!

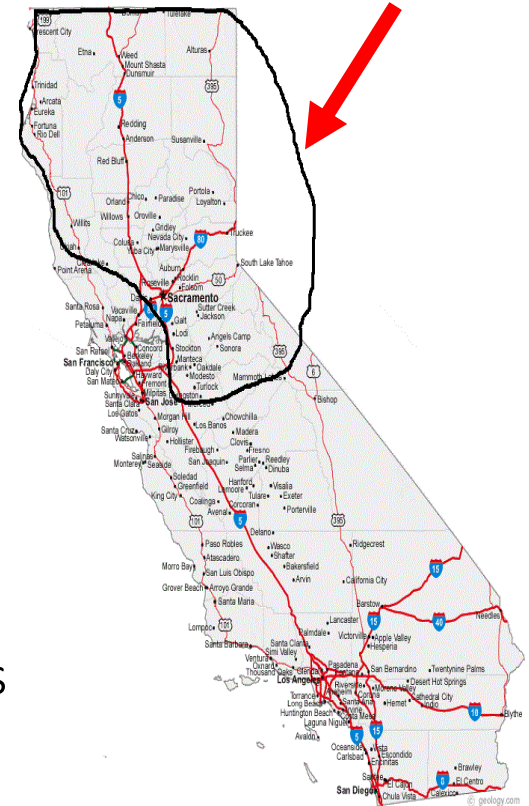


Day 2



- By midnight, additional patients arrive
 - The hospital's entire ICU is full
 - The emergency department is holding 5 overdose patients on naloxone infusions
 - Smaller hospitals are contacting us to transfer similar patients
- This hospital is the regional referral center
 - They have to deny transfers
 - They have to triage trauma patients to other hospitals
 - Major patient care and public health ramifications
- The community leadership meeting

Referral
Catchment
Area



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Countering Weapons of Mass Destruction

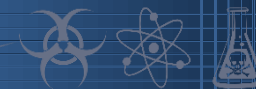
Day 3



- Patients keep coming...
- Triage volume is significantly up over the next 5 days
- Need more emergency shipments of naloxone
- Emergency department is now holding 36 patients (16 ICU)
- **Operating rooms essentially shut down because no place for patients to recover post-surgery**



Pill Analysis and Serum Concentrations



Pill Source (Case Number)	Pill Mass (mg)	Fentanyl (µg)	Hydrocodone (mg)	APAP (mg)*	Promethazine (mg)
3	453.6	6900	0	137.0	4.27
8	488.9	6320	0	144.8	3.82
10	463.9	6690	0	415.1	4.07
11	420.2	5630	0	105.4	3.66
13	421.9	600	7.41	258.3	0.53
14	473.4	6870	0	102.8	4.61

APAP = acetaminophen.



Therapeutic Serum Fentanyl concentration	0.63-2.0 ng/mL
Previously Reported Fatal concentrations	5-120 ng/mL
Outbreak Serum concentrations (Alive)	16.5-162 ng/mL



Take Home Points



- “One pill can kill!” Experimentation no longer an option.
 - 12 confirmed deaths in Sacramento county
 - 20 suspected deaths (coroner protocols for fentanyl)
 - Regional numbers: 50 deaths confirmed
- This outbreak overwhelmed the resources of a city and region
- Antidote supplies were inadequate
- This referral hospital could not accept transfers from a large region of California
- Law enforcement was unaware and information was not shared in a timely manner



Lessons Learned



- Health Security
 - This fentanyl outbreak destabilized our health care system
 - + Hospitals breach capacity due to volume of ICU care
 - + Denied transfers to specialty care
 - + Operating rooms unable to perform surgeries that required ICU beds after surgery
- We were extremely vulnerable to other potential incidents/threats
 - + Day 2: Large Public Gathering- Attendance 17,213
 - + Day 4: Large Public Gathering - Attendance 17,092
- No standard methodology existed for activating disaster/ emergency response for overdoses to bring in Federal Government support
- Significant communications gaps between Public Health/ Healthcare and Law Enforcement communities cost lives



CReDO—The Community Response to Drug Overdose (CReDO) Project



- Seeks to integrate medical, law enforcement, and drug prevention efforts to overdose clusters and spikes
- Seeks to improve the community response to the current drug overdose crisis and opioid public health emergency
- Seeks to align efforts across the Federal interagency and integrate with state, local, and private sector partners
- Promotes a System of Systems Architecture (SOSA) approach
- Seeks to identify and share best practices within communities
- It begins with establishing operational views, with multiple Lines of Effort (LOE) pursued in parallel.



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Countering Weapons of Mass Destruction

What's "Community"? What's "Response"? Why "Overdose"?



- Community in CReDO
 - Not just the geographical location
 - Community of disciplines, tribes, guilds
- Overdose in CReDO
 - Involves more than opioids and includes mixtures of drugs
 - Includes fatal and non-fatal cases
 - And must address addiction, abuse, experimental use, and overdose
- Response in CReDO
 - Need to be available 24/ 7
 - Holistic, multi-disciplinary



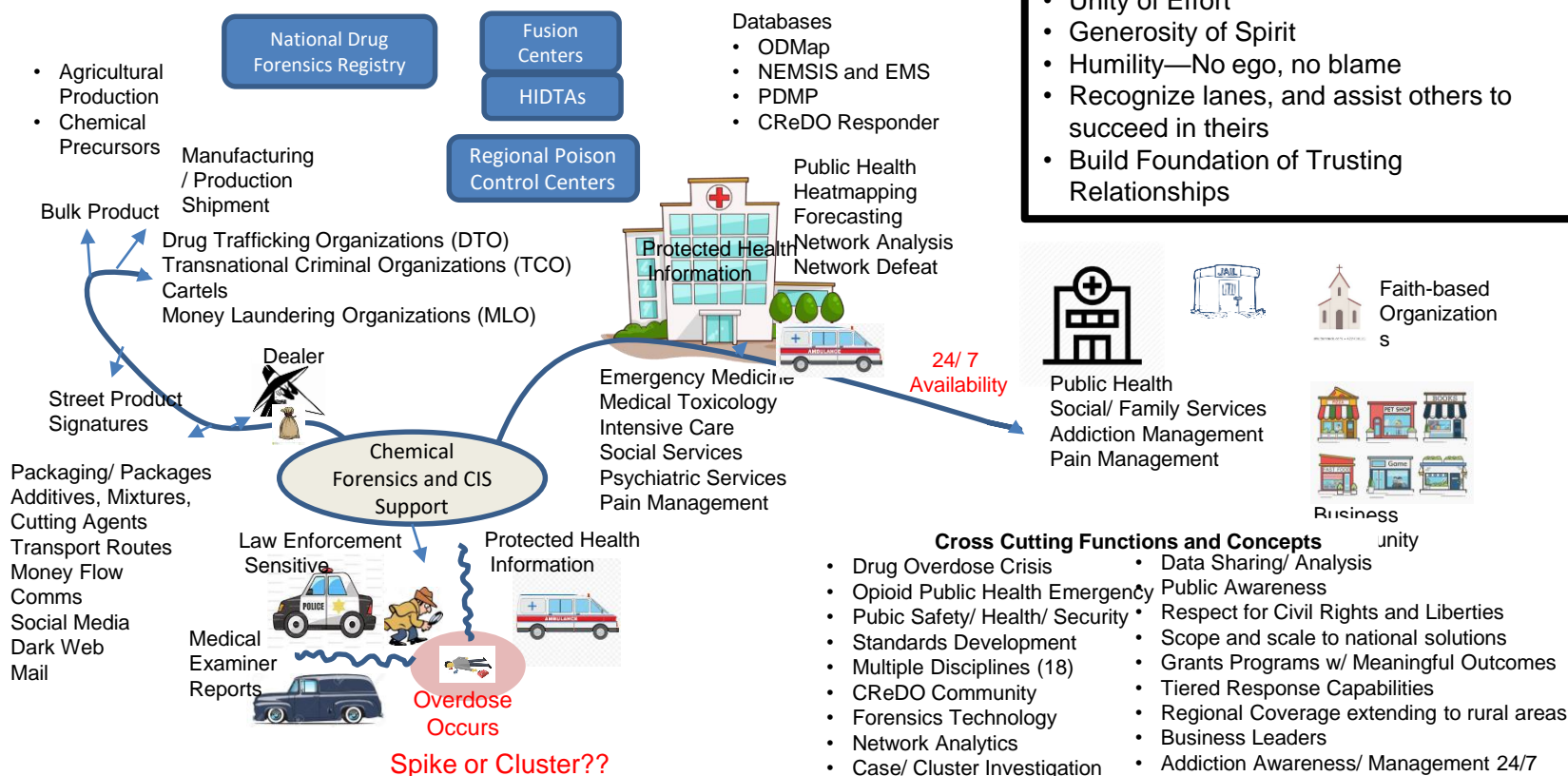
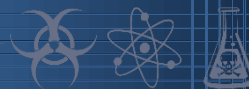
CReDO Disciplines (Communities)



- **Public Health**
- **Law Enforcement**
 - Civic/ governmental Leaders
 - Law Enforcement
 - Criminal Investigations Techs
 - Chemical Forensics Techs
- **Medical/ Healthcare**
 - EMS
 - Emergency Medicine
 - Primary Care Physicians
 - Intensive Care
 - Mental health professionals
 - Pain Management
 - Medical Toxicology
 - Poison Control Centers
 - Healthcare Insurance
- HIDTAs/ Fusion Centers/ Task Forces/ Coalitions
- Medical Examiners
- Legal proceedings:
 - Judges,
 - Attorneys--prosecution/ defense
- Addiction Management
- Social Services/ Family Services
- Detention Facility
- Faith-based Organizations (FBO)
- Knowledge/ Database Management
- Local Business Groups
- Addicted Community



Community Response to Drug Overdose (CReDO)



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Countering Weapons of Mass Destruction

CReDO Lines of Effort



- Consensus-based, voluntary standards for Community Response to Drug Overdoses (CReDO)
- CReDO Community
- Chemical Forensics Technology, Competencies, and Laboratory Network
- Pilot Projects to develop, evaluate, and validate best practices
- Data, Information Analysis, and Knowledge Management
- Legislation changes needed in codes, statutes, directives, regulations
- Cluster Outbreak Response Evaluation Local Assessment Team (CORELAT)
- Technology Development, Testing, and Transfer Requirements
- Grants Programs links and harmonization
- Legal review for Privacy, Civil Rights/ Civil Liberties Protections
- Public Awareness Campaign Coordination
- Overdose, Abuse, Addiction Management--24/7 Availability (includes jails, prisons)



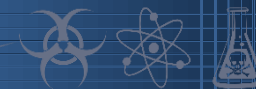
Consensus based, ANSI-accredited Standards Process



- Consultation with National Institute of Standards and Technology (NIST, Commerce)
- Recommended approaching National Fire Protection Association (NFPA)
 - Pursue process used for NFPA-3000 Active Shooter High-threat Environment Response (ASHER) Standard
 - Respected brand name and experience for American National Standards Institute (ANSI) accredited standards development organizations
 - Demonstrated success for complex, multi-disciplinary standards development
 - <https://www.nfpa.org/credo> (suspense for input Dec 31!!)



NFPA CReDO Page www.nfpa.org/CReDO



[CODES & STANDARDS](#) [ELECTRICAL SOLUTIONS](#) [NEWS & RESEARCH](#) [TRAINING & CERTIFICATION](#) [PUBLIC EDUCATION](#) [MEMBERSHIP](#)

CODES & STANDARDS

Codes & Standards

All codes & standards



Standards development



How the process works



Step 1: Input Stage

Step 2: Comment Stage

Step 3: Technical Meeting

Step 4: Council Appeals and
Issuance of Standards

First Draft Reports & Second
Draft Reports



New projects and draft
documents



**Community-based response
to drug overdoses**

[Codes & Standards](#) / [Standards development](#) / [How the process works](#) / [New projects and draft documents](#)
/ [Community-based response to drug overdoses](#)

Community-based response to drug overdoses (CReDO)



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Coordination Across Communities



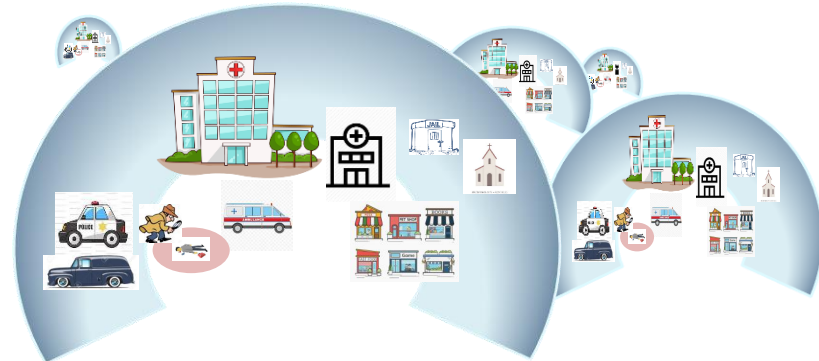
National Drug Forensics Registry

HIDTAs

Fusion
Centers

InfraGard

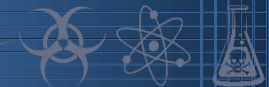
Regional Poison Control Centers



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Dashboard View of CReDO Collaboration: A System of Systems Architecture

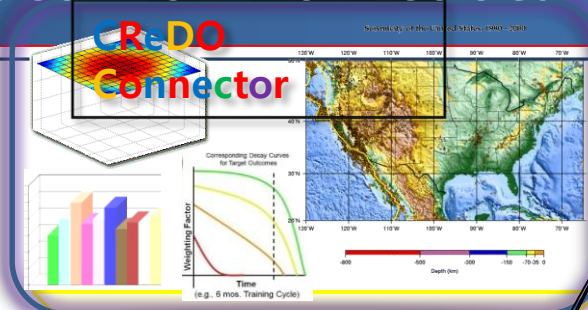


Ontology

Identifies critical interdependencies
Applies Dimensions as Lenses and Filters

Taxonomy

Provides data tags Dynamic
Folksonomy Dimensions relevant
to Nat Res Framework



Dynamic Di

Tiering
Weather, Tra
Cost
Time, Cours
Work/ Rest C
Battle Rhyth
Population B

HIDTAs

Fusion Centers
Joint Task Forces
Opioid WG
Healthcare Coalitions
FEMA Regions
BioWatch
Local Emerg Plan
Committees

Region

Compacts

State

County

Resource Type

Geographical Features

Incident Specifics

Pop Zones

All Areas
Urban
Suburban
Sprawl
Exurban
Industrial Zone
Technology
Rural
Parkland
Wilderness
Ext Wilderness
Ocean

Coastal
Hurricane
Tsunami
Plains
Prairie
Flood
Hills
Mountains
Desert
Jungle
Forest
Marsh
Seismic
Fault

Substance
Purity
Toxicity
Contaminar
Distribution
Amount
Cutting Age
Packaging
Transit Rt
Markings
Fingerprints
Pillisitics

Plans

Disciplines

Critical Sectors Fu

- # Transportation
- # 2 Comm
- # 3 PW&En
- # 4 Fire&ES
- # 5 EmergMa
- # 6 Mass Cas
- # 7 Logistics
- # 8 PH Med
- # 9 SAR
- # 10 Oil HM
- # 11 Ag & Nat
- # 12 Energy
- # 13 Pub Safe
- # 14 Recovery
- # 15 Ext Affrs

CReDO Specific:
Law Enforcement
EMS
911
Chemical Forensics
Addictions Mgmt.
Medical Care
Social Services
Family Services
Medical Examiner
Hazardous Materials
Emerg Mgmt
F&ES
Intelligence
Counterintelligence
HVA Programs
HIDTAs
Fusions Centers

Resources

Healthcare

Public He

Operational Filters

Geospatial

Resource

Capabilities

Communities

Homeland
Security

CReDO Community
Response Disciplines and Actions

Countering Weapons of Mass Destruction





Homeland Security



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Countering Weapons of Mass Destruction